

780 CMR 2 through 35

(Tables and Figures only; without exception all are unique to Massachusetts)

Sections replaced, added, or with text modified following the October 13, 2015 BBRS meeting are shown in **blue** font.

Sections where modification is recommended for discussion at the Nov. 10, 2015 BBRS meeting are shown in **orange** font.

Sections where modification occurred during / after the November 10, 2015 BBRS meeting are shown in **purple** font.

CHAPTER 4

TABLE 427.4 FIRE PROTECTION REQUIREMENTS

| Commodity Class ¹ | Size of High-Piled Display Area ² (sq. ft.) | Fire Protection Requirements | | | | |
|------------------------------|--|---------------------------------|----------------------------------|--------------------------------------|--------------------------|--------------------------------------|
| | | Fire Suppression System (427.5) | Fire Alarm/Notification (427.14) | Fire Department Access Doors (427.8) | Hose Connections (427.7) | Manual Smoke and Heat Vents (427.16) |
| I-IV | 0 to 2,500 | NR | NR | NR | NR | NR |
| | 2,501 to 12,000 | Yes | NR | NR | NR | NR |
| | Over 12,000 | Yes | Yes | Yes | Yes | Yes |
| High Hazard | 0 to 500 | NR | NR | NR | NR | NR |
| | 501 to 2,500 | Yes | NR | NR | NR | NR |
| | 2,501 to 12,000 | Yes | NR | Yes | Yes | NR |
| | Over 12,000 | Yes | Yes | Yes | Yes | Yes |

NR = Not required.

1. For commodity classifications definitions, *see* subsection 427.3.
2. Areas that are separated by 60 ft of display area with such areas not used for high piled storage, or that are separated with a one-hour fire resistance-rated separation barrier, can be considered as separated high piled areas.
3. If the building is required to be sprinklered under this code, then the sprinkler system protecting the high piled storage area and 15 ft beyond shall be designed in accordance with the appropriate NFPA Standard(s).

TABLE 427.13 DENSITY FACTOR FOR HAZARDOUS MATERIALS EXEMPTIONS CALCULATIONS

| Material | Class | Solids in lbs. ¹ | Liquid in gallons ¹ (lbs.) | Gas in cubic feet ¹ |
|---------------------|-------|-----------------------------|--|--------------------------------|
| Oxidizers | 4 | NP ² | NP ² | NP ² |
| | 3 | 0.75 | (0.75) | 112.5 |
| | 2 | 1.5 | (1.5) | 9 |
| | 1 | 12 | (12) | 4.5 |
| Unstable (reactive) | 4 | NP ² | NP ² | NP ² |
| | 3 | 0.375 | (0.375) | 3.75 |
| | 2 | 0.3 | (0.3) | 1.5 |
| | 1 | Unlimited | Unlimited | 2.25 |
| Toxics | All | 0.65 | (0.65) | 1.053 |
| Corrosives | All | 6.5 | 0.65 | 1.053 |
| Highly Toxic | All | 0.0013 | (0.0013) | 0.026 |
| Water Reactive | 3 | 0.375 | (0.0375) | Not applicable |
| | 2 | 0.3 | (0.3) | |
| | 1 | 0.375 | (0.0375) | |

1. Quantities may be increased by 100% in sprinklered buildings.

2. Not Permitted

CHAPTER 9

TABLE 903.2 OCCUPANCY AUTOMATIC SPRINKLER REQUIREMENTS

| Building having occupancy | Provide automatic fire sprinkler system throughout building if one (1) of the following conditions will exist (<i>see</i> Note a) | | |
|---------------------------|--|------------------------|---|
| | Fire Area | Building occupant load | Occupancy location |
| A-1 | >0 ft ² | > 0 | Any level |
| A-2 [Nightclub] | >5,000 ft ² | ≥ 50 | Any floor other than the <i>level of exit discharge</i> for A-2 Use |
| A-2 [all others] | >5,000 ft ² | ≥ 100 | Any floor other than the <i>level of exit discharge</i> for A-2 Use |
| A-3 | >5,000 ft ² | ≥ 300 | Any floor other than the <i>level</i> |

| | | | |
|--|-------------------------|-------|---|
| | | | <i>of exit discharge for A-3 Use</i> |
| A-4 | >7,500 ft ² | ≥ 300 | Any floor other than the <i>level of exit discharge</i> for A-5 Use |
| A-5 | | | <i>See Note b</i> |
| Assembly occupancies on roofs | | | <i>See Note c</i> |
| Multiple fire areas of Group A-1, A-2, A-3, or A-4 | | | <i>See Note d</i> |
| B [Ambulatory Health Care] | | | <i>See Note e</i> |
| B | >12,000 ft ² | --- | --- |
| E [below level of exit discharge] | | | <i>See Note f</i> |
| E [all others] | >12,000 ft ² | --- | --- |
| F-1 [Woodworking Operations] | | | <i>See Note g</i> |
| F-1 [all others] | >12,000 ft ² | --- | More than three (3) stories above <i>grade plane</i> |
| F-1 [all types] | >24,000 ft ² | --- | Combined area of all Group F-1 <i>fire areas</i> on all floors, including mezzanines. |
| H [Pyroxylin Plastics] | | | <i>See Note h</i> |
| H-5 | | | <i>See Note i</i> |
| H [all others] | >0 ft ² | > 0 | Any level |
| I ^a | >0 ft ² | > 0 | Any level |
| M [bulk merchandising] | >0 ft ² | > 0 | Any level |
| M [upholstered furniture display/sale] | >0 ft ² | > 0 | Any level |
| M [storage of merchandise in high-piled or rack storage arrays] | | | <i>See Note j</i> |
| M [all others] | >12,000 ft ² | --- | More than three (3) stories above <i>grade plane</i> |
| M [all types] | >24,000 ft ² | --- | Combined area of all Group M <i>fire areas</i> on all floors, including mezzanines. |
| R ^a | >0 ft ² | > 0 | Any level |
| S-1 [upholstered furniture or mattresses/storage] | >2,500 ft ² | -- | More than three (3) stories above <i>grade plane</i> |
| S-1 [with commercial motor vehicles] | >5,000 ft ² | --- | More than three (3) stories above <i>grade plane</i> |
| S-1 [with repair garage, building two (2) or more stories above grade] | >10,000 ft ² | --- | 1. In basement; or 2. More than three (3) stories above <i>grade plane</i> |
| S-1 [with repair garage, building one (1) story above grade] | >12,000 ft ² | --- | In basement |
| S-1 [with commercial motor vehicles] | >5,000 ft ² | --- | 1. In basement; or 2. More than three (3) stories above <i>grade plane</i> |
| S-1 [with tire storage] | | | <i>See Note k</i> |
| S-1 [all others] | >12,000 ft ² | --- | More than three (3) stories above <i>grade plane</i> |
| S-1 [all types] | >24,000 ft ² | --- | Combined area of all Group M <i>fire areas</i> on all floors, including mezzanines. |
| S-2 | | | <i>See Notes l & m</i> |

Note a:

1. For Use Group R and I-1 buildings with an aggregate building area of 12,000 ft² or more, and Mixed Use Buildings containing R-Uses, the sprinkler system shall be designed and installed throughout the structure in accordance with NFPA-13
2. Buildings of entire R-Use, other than R-1 Occupancies and R-2 Dormitories, having no more than three dwelling units and also less than a 12,000 ft² *Fire Area* shall be permitted to have an *automatic fire suppression* system installed in accordance with Section 903.3.1.3; provided that every *automatic sprinkler system* shall have at least one (1) automatic water supply, or a stored water supply source, in accordance with NFPA-13D where the minimum quantity of stored water shall equal the water demand rate times twenty (20) minutes.
3. An *automatic sprinkler system* installed in accordance with Section 903.3.1.3 shall be permitted in Group R-3 occupancies.
4. An *automatic sprinkler system* installed in accordance with Section 903.3.1.3 shall be permitted in Group R-4 Condition 1 occupancies.
5. An *automatic sprinkler system* installed in accordance with Section 903.3.1.2 shall be permitted in Group R-4 Condition 2 occupancies. Attics shall be protected as follows:
 - a. Attics used for living purposes, storage or fuel-fired equipment shall be protected with an *automatic sprinkler system* installed in accordance with Section 903.3.1.2.
 - b. Attics not used for living purposes, storage or fuel-fired equipment shall be protected with one (1) of the following:
 - i. Attics protected throughout by a heat detector system arranged to activate the building fire alarm system in accordance with Section 907.2.10.
 - ii. Attics constructed of noncombustible materials.
 - iii. Attics constructed of fire-retardant-treated wood framing complying with Section 2303.2.
 - iv. The *automatic sprinkler system* shall be extended to provide protection throughout the attic space.
6. An *automatic sprinkler system* installed in accordance with Section 903.3.1.3 shall be permitted in care facilities with five (5) or fewer individuals in a single-family dwelling.
7. Townhouses are required to be protected by *automatic sprinkler systems*.

Note b: Group A-5. An *automatic sprinkler system* shall be provided in concession stands, retail areas, press boxes, and other accessory use areas in excess of 1,000 ft² (93m²).

Note c: Assembly occupancies on roofs. Where an occupied roof has an *Assembly Occupancy* with an *occupancy load* exceeding:

1. 100 for Group A-2; and
2. 300 for all other Group A occupancies,

All floors between the occupied roof and the *level of exit discharge* shall be equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2, when applicable

Exception: Open parking garages in Type I or Type II construction.

Note d: Multiple fire areas. An *automatic sprinkler system* shall be provided where multiple *fire areas* of Group A-1, A-2, A-3 or A-4 occupancies share exit or exit access components and the combined *occupant load* of these *fire areas* is 300 or more.

Note e: Group B ambulatory health care facilities. An *automatic sprinkler system* shall be installed throughout all *fire areas* containing a Group B ambulatory health care facility occupancy when either one of the following conditions exists at any time:

1. Four (4) or more care recipients are incapable of self-preservation.
2. One (1) or more care recipients who are incapable of self-preservation are located at other than the *level of exit discharge* serving such an occupancy.

In buildings where *ambulatory care* is provided on levels other than the *level of exit discharge*, and *automatic sprinkler system* shall be installed throughout the entire floor where such care is provided as well as all floors below, and all floors between the level of ambulatory care and the nearest *level of exit discharge*, including the *level of exit discharge*.

Note f: Group E. An *automatic sprinkler system* shall be provided as follows:

1. Throughout all Group E *fire areas* greater than 12,000 ft² in area.
2. Throughout every portion of educational buildings below the *lowest level of exit discharge* serving that portion of the building.

Note g: Group F-1 [Woodworking Operations]. An *automatic sprinkler system* shall be installed throughout buildings that contain woodworking operation[s] in excess of 2,500 square feet (232 m²) in area that generate[s] finely divided combustible waste or use[s] finely divided combustible materials.

Note h: Pyroxylin Plastics. An *automatic sprinkler system* shall be provided in buildings, or portions thereof, where cellulose nitrate film or pyroxylin plastics are manufactured, stored or handled in quantities exceeding 100 pounds.

Note i: Group H-5. An *automatic sprinkler system* shall be installed throughout buildings containing Group H-5 occupancies. The design of the sprinkler system shall be not less than that required by this code for the occupancy hazard classifications in accordance with Table 903.2.1. Where the design area of the sprinkler system consists of a corridor protected by one row of sprinklers, the maximum number of sprinklers required to be calculated is 13.

Note j: High-piled storage. An *automatic sprinkler system* shall be provided in accordance with the IFC, and applicable provisions of 527 CMR, in all buildings of Group M where storage of merchandise is in high-piled or rack storage arrays.

Note k: Bulk storage of tires. An *automatic sprinkler system* shall be provided throughout buildings and structures where the area for the storage of tires exceeds 20,000 cubic feet (566 m³), in accordance with Section 903.3.1.1.

Note l: Group S-2. An *automatic sprinkler system* shall be provided for Group S-2 occupancies as follow:

1. Throughout buildings classified as Group S-2 Enclosed Parking.
2. Throughout Group S-2 Enclosed Parking located beneath other groups.

Exception: Enclosed parking garages located beneath R-3 occupancies.

Note m: Commercial Parking Garages. An *automatic sprinkler system* shall be provided throughout buildings having storage of commercial motor vehicles where the aggregate area used for parking exceeds 5,000 ft² (464m²).

CHAPTER 13

TABLE 401.2.2 SITE TO SOURCE FUEL CONVERSION FACTORS

| Load Type | Factor |
|---|--------|
| Electric power use at the utility meter | 3.01 |
| Natural Gas | 1.09 |
| Fuel Oil | 1.13 |
| LPG | 1.12 |
| Purchased District Heating | |
| Hot Water | 1.35 |
| Steam | 1.45 |
| Purchased District Cooling | 0.99 |
| Fossil fuels not listed | 1.1 |
| Purchased Combined Heat and Power District Heat | * |

*A source fuel conversion for purchased district heat supplied by a combined heat and power central utility will be published by the MA Dept. of Energy Resources on a per district system basis.

CHAPTER 16

TABLE 1604.11 SNOW LOADS, WIND SPEEDS, AND SEISMIC PARAMETERS

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V _{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|-----------|--|--|--|------------------|-------------------------|------------------------|----------------|
| | Ground Snow Load, P _g (psf) | Minimum Flat Roof Snow Load, P _f ¹ (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S _s | S ₁ |
| | | | | | | | |

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V_{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|-------------------------|-------------------------------|--|-----------------------------------|------------------|-------------------------|------------------------|-------|
| | Ground Snow Load, P_g (psf) | Minimum Flat Roof Snow Load, P_f^1 (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S_s | S_1 |
| Abington | 35 | 30 | 122 | 132 | 143 | 0.196 | 0.065 |
| Acton | 50 | 35 | 114 | 124 | 134 | 0.213 | 0.070 |
| Acushnet | 30 | 30 | 129 | 138 | 149 | 0.172 | 0.059 |
| Adams ² | 60 | 40 | 105 | 115 | 120 | 0.172 | 0.069 |
| Agawam | 35 | 35 | 109 | 120 | 128 | 0.174 | 0.065 |
| Alford ² | 40 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Amesbury | 50 | 30 | 113 | 123 | 134 | 0.267 | 0.078 |
| Amherst | 40 | 35 | 106 | 118 | 125 | 0.172 | 0.066 |
| Andover | 50 | 30 | 114 | 124 | 135 | 0.247 | 0.075 |
| Aquinnah (Gay Head) | 25 | 25 | 133 | 140 | 154 | 0.141 | 0.052 |
| Arlington | 40 | 30 | 117 | 127 | 138 | 0.219 | 0.070 |
| Ashburnham | 60 | 35 | 108 | 118 | 128 | 0.200 | 0.071 |
| Ashby | 60 | 35 | 108 | 119 | 128 | 0.210 | 0.072 |
| Ashfield | 50 | 40 | 105 | 115 | 120 | 0.170 | 0.067 |
| Ashland | 40 | 35 | 116 | 127 | 137 | 0.190 | 0.066 |
| Athol | 60 | 35 | 106 | 117 | 125 | 0.183 | 0.069 |
| Attleboro | 35 | 30 | 122 | 132 | 143 | 0.181 | 0.063 |
| Auburn | 50 | 35 | 114 | 125 | 135 | 0.177 | 0.065 |
| Avon | 35 | 35 | 121 | 131 | 142 | 0.196 | 0.065 |
| Ayer | 50 | 35 | 111 | 122 | 132 | 0.212 | 0.071 |
| Barnstable | 30 | 25 | 132 | 140 | 152 | 0.152 | 0.055 |
| Barre | 50 | 35 | 109 | 120 | 130 | 0.180 | 0.067 |
| Becket ² | 60 | 40 | 105 | 115 | 120 | 0.168 | 0.066 |
| Bedford | 50 | 30 | 115 | 125 | 136 | 0.221 | 0.071 |
| Belchertown | 40 | 35 | 109 | 119 | 129 | 0.173 | 0.066 |
| Bellingham | 40 | 35 | 118 | 129 | 139 | 0.181 | 0.064 |
| Belmont | 40 | 30 | 117 | 127 | 138 | 0.215 | 0.070 |
| Berkley | 30 | 30 | 125 | 135 | 146 | 0.181 | 0.061 |
| Berlin | 50 | 35 | 113 | 124 | 134 | 0.193 | 0.068 |
| Bernardston | 60 | 35 | 105 | 115 | 120 | 0.176 | 0.069 |
| Beverly | 50 | 30 | 117 | 127 | 138 | 0.245 | 0.073 |
| Billerica | 50 | 30 | 114 | 124 | 135 | 0.229 | 0.073 |
| Blackstone | 40 | 35 | 119 | 129 | 140 | 0.177 | 0.063 |
| Blandford | 50 | 40 | 105 | 116 | 122 | 0.171 | 0.065 |
| Bolton | 50 | 35 | 113 | 123 | 134 | 0.199 | 0.069 |
| Boston | 40 | 30 | 118 | 128 | 139 | 0.217 | 0.069 |
| Bourne | 30 | 25 | 130 | 139 | 150 | 0.168 | 0.058 |
| Boxborough | 50 | 35 | 113 | 123 | 134 | 0.208 | 0.070 |
| Boxford | 50 | 30 | 115 | 125 | 136 | 0.252 | 0.075 |
| Boylston | 50 | 35 | 113 | 123 | 134 | 0.191 | 0.068 |
| Braintree | 35 | 30 | 120 | 131 | 142 | 0.203 | 0.066 |
| Brewster | 25 | 25 | 132 | 140 | 152 | 0.147 | 0.054 |
| Bridgewater | 30 | 30 | 124 | 134 | 145 | 0.188 | 0.063 |
| Brimfield | 40 | 35 | 112 | 123 | 133 | 0.173 | 0.065 |
| Brockton | 35 | 30 | 122 | 132 | 143 | 0.193 | 0.064 |
| Brookfield | 50 | 35 | 112 | 122 | 132 | 0.174 | 0.065 |
| Brookline | 40 | 30 | 118 | 128 | 139 | 0.211 | 0.068 |
| Buckland ² | 60 | 40 | 105 | 115 | 120 | 0.171 | 0.068 |
| Burlington | 50 | 30 | 115 | 125 | 136 | 0.227 | 0.072 |
| Cambridge | 40 | 30 | 117 | 128 | 139 | 0.216 | 0.069 |
| Canton | 40 | 35 | 120 | 130 | 141 | 0.195 | 0.065 |
| Carlisle | 50 | 30 | 114 | 124 | 135 | 0.222 | 0.072 |
| Carver | 30 | 30 | 127 | 136 | 147 | 0.182 | 0.061 |
| Charlemont ² | 60 | 40 | 105 | 115 | 120 | 0.172 | 0.068 |
| Charlton | 50 | 35 | 114 | 124 | 135 | 0.174 | 0.064 |
| Chatham | 25 | 25 | 134 | 140 | 154 | 0.135 | 0.051 |
| Chelmsford | 50 | 30 | 113 | 123 | 134 | 0.229 | 0.073 |

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V_{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|-------------------------------|-------------------------------|--|-----------------------------------|------------------|-------------------------|------------------------|-------|
| | Ground Snow Load, P_g (psf) | Minimum Flat Roof Snow Load, P_f^1 (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S_s | S_1 |
| Chelsea | 40 | 30 | 118 | 128 | 139 | 0.221 | 0.070 |
| Cheshire ² | 60 | 40 | 105 | 115 | 120 | 0.171 | 0.068 |
| Chester | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Chesterfield | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Chicopee | 35 | 35 | 108 | 119 | 127 | 0.172 | 0.065 |
| Chilmark | 25 | 25 | 134 | 140 | 154 | 0.140 | 0.052 |
| Clarksburg ² | 60 | 40 | 105 | 115 | 120 | 0.175 | 0.069 |
| Clinton | 50 | 35 | 113 | 123 | 133 | 0.194 | 0.068 |
| Cohasset | 35 | 30 | 122 | 131 | 142 | 0.211 | 0.067 |
| Colrain ² | 60 | 40 | 105 | 115 | 120 | 0.174 | 0.069 |
| Concord | 50 | 35 | 114 | 125 | 136 | 0.214 | 0.070 |
| Conway | 50 | 40 | 105 | 115 | 120 | 0.171 | 0.067 |
| Cummington ² | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Dalton ² | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Danvers | 50 | 30 | 116 | 126 | 137 | 0.245 | 0.074 |
| Dartmouth | 30 | 30 | 129 | 139 | 150 | 0.169 | 0.058 |
| Dedham | 40 | 35 | 119 | 129 | 140 | 0.201 | 0.067 |
| Deerfield | 50 | 35 | 105 | 115 | 120 | 0.172 | 0.068 |
| Dennis | 30 | 25 | 132 | 140 | 152 | 0.150 | 0.054 |
| Dighton | 30 | 30 | 125 | 135 | 146 | 0.180 | 0.061 |
| Douglas | 40 | 35 | 117 | 127 | 138 | 0.175 | 0.064 |
| Dover | 40 | 35 | 118 | 128 | 139 | 0.196 | 0.067 |
| Dracut | 50 | 30 | 112 | 122 | 133 | 0.240 | 0.075 |
| Dudley | 50 | 35 | 116 | 126 | 136 | 0.173 | 0.064 |
| Dunstable | 50 | 35 | 111 | 121 | 132 | 0.231 | 0.074 |
| Duxbury | 30 | 30 | 125 | 135 | 146 | 0.192 | 0.063 |
| E. Bridgewater | 35 | 30 | 123 | 133 | 144 | 0.191 | 0.064 |
| E. Brookfield | 50 | 35 | 112 | 122 | 133 | 0.175 | 0.065 |
| E. Longmeadow | 35 | 35 | 110 | 121 | 130 | 0.174 | 0.065 |
| Eastham | 25 | 25 | 132 | 140 | 152 | 0.146 | 0.054 |
| Easthampton | 40 | 35 | 106 | 117 | 124 | 0.171 | 0.066 |
| Easton | 35 | 30 | 122 | 132 | 143 | 0.187 | 0.064 |
| Edgartown | 25 | 25 | 135 | 140 | 155 | 0.136 | 0.051 |
| Egremont ² | 40 | 40 | 105 | 115 | 120 | 0.169 | 0.065 |
| Erving | 50 | 35 | 105 | 116 | 122 | 0.178 | 0.069 |
| Essex | 50 | 30 | 117 | 127 | 138 | 0.253 | 0.075 |
| Everett | 40 | 30 | 117 | 128 | 139 | 0.222 | 0.070 |
| Fairhaven | 30 | 30 | 129 | 139 | 150 | 0.169 | 0.058 |
| Fall River | 30 | 30 | 126 | 137 | 148 | 0.176 | 0.060 |
| Falmouth | 30 | 25 | 132 | 140 | 152 | 0.154 | 0.055 |
| Fitchburg | 60 | 35 | 110 | 120 | 130 | 0.202 | 0.071 |
| Florida ² | 60 | 40 | 105 | 115 | 120 | 0.173 | 0.069 |
| Foxborough | 35 | 35 | 120 | 131 | 142 | 0.186 | 0.064 |
| Framingham | 40 | 35 | 116 | 127 | 137 | 0.194 | 0.067 |
| Franklin | 40 | 35 | 119 | 129 | 140 | 0.183 | 0.064 |
| Freetown | 30 | 30 | 126 | 137 | 147 | 0.178 | 0.060 |
| Gardner | 60 | 35 | 108 | 119 | 128 | 0.191 | 0.070 |
| Georgetown | 50 | 30 | 114 | 124 | 135 | 0.258 | 0.076 |
| Gill | 50 | 35 | 105 | 115 | 120 | 0.177 | 0.069 |
| Gloucester | 50 | 30 | 118 | 128 | 139 | 0.252 | 0.074 |
| Goshen | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Gosnold | 30 | 25 | 132 | 140 | 152 | 0.153 | 0.055 |
| Grafton | 50 | 35 | 115 | 126 | 136 | 0.180 | 0.065 |
| Granby | 35 | 35 | 108 | 119 | 127 | 0.172 | 0.066 |
| Granville | 50 | 40 | 106 | 117 | 125 | 0.173 | 0.065 |
| Great Barrington ² | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Greenfield | 50 | 35 | 105 | 115 | 120 | 0.173 | 0.068 |

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V_{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|---------------------------|-------------------------------|--|-----------------------------------|------------------|-------------------------|------------------------|-------|
| | Ground Snow Load, P_g (psf) | Minimum Flat Roof Snow Load, P_f^1 (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S_s | S_1 |
| Groton | 60 | 35 | 111 | 121 | 132 | 0.218 | 0.072 |
| Groveland | 50 | 30 | 113 | 123 | 134 | 0.259 | 0.077 |
| Hadley | 40 | 35 | 106 | 117 | 124 | 0.171 | 0.066 |
| Halifax | 30 | 30 | 124 | 134 | 145 | 0.189 | 0.063 |
| Hamilton | 50 | 30 | 116 | 126 | 137 | 0.253 | 0.075 |
| Hampden | 35 | 35 | 111 | 122 | 131 | 0.173 | 0.065 |
| Hancock ² | 50 | 40 | 105 | 115 | 120 | 0.172 | 0.068 |
| Hanover | 35 | 30 | 123 | 133 | 144 | 0.198 | 0.065 |
| Hanson | 35 | 30 | 123 | 133 | 144 | 0.195 | 0.064 |
| Hardwick | 50 | 35 | 110 | 120 | 130 | 0.176 | 0.066 |
| Harvard | 50 | 35 | 112 | 123 | 133 | 0.206 | 0.070 |
| Harwich | 25 | 25 | 133 | 140 | 153 | 0.141 | 0.053 |
| Hatfield | 40 | 35 | 106 | 117 | 124 | 0.171 | 0.066 |
| Haverhill | 50 | 30 | 112 | 123 | 134 | 0.260 | 0.077 |
| Hawley ² | 60 | 40 | 105 | 115 | 120 | 0.171 | 0.068 |
| Heath ² | 60 | 40 | 105 | 115 | 120 | 0.173 | 0.069 |
| Hingham | 35 | 30 | 121 | 131 | 142 | 0.210 | 0.067 |
| Hinsdale ² | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Holbrook | 35 | 30 | 121 | 131 | 142 | 0.198 | 0.065 |
| Holden | 50 | 35 | 112 | 122 | 133 | 0.183 | 0.067 |
| Holland | 40 | 35 | 114 | 124 | 134 | 0.173 | 0.064 |
| Holliston | 40 | 35 | 117 | 128 | 138 | 0.188 | 0.066 |
| Holyoke | 35 | 35 | 107 | 118 | 126 | 0.172 | 0.065 |
| Hopedale | 40 | 35 | 117 | 128 | 138 | 0.181 | 0.065 |
| Hopkinton | 40 | 35 | 116 | 127 | 137 | 0.186 | 0.066 |
| Hubbardston | 50 | 35 | 109 | 120 | 130 | 0.185 | 0.068 |
| Hudson | 50 | 35 | 114 | 124 | 135 | 0.197 | 0.068 |
| Hull | 35 | 30 | 120 | 130 | 141 | 0.215 | 0.068 |
| Huntington | 50 | 40 | 105 | 116 | 122 | 0.170 | 0.066 |
| Ipswich | 50 | 30 | 116 | 126 | 137 | 0.257 | 0.076 |
| Kingston | 30 | 30 | 125 | 135 | 146 | 0.188 | 0.062 |
| Lakeville | 30 | 30 | 126 | 136 | 147 | 0.181 | 0.061 |
| Lancaster | 50 | 35 | 112 | 122 | 133 | 0.197 | 0.069 |
| Lanesborough ² | 50 | 40 | 105 | 115 | 120 | 0.171 | 0.068 |
| Lawrence | 50 | 30 | 113 | 123 | 134 | 0.250 | 0.076 |
| Lee ² | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Leicester | 50 | 35 | 113 | 123 | 134 | 0.178 | 0.066 |
| Lenox ² | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Leominster | 60 | 35 | 111 | 121 | 131 | 0.199 | 0.070 |
| Leverett | 40 | 35 | 105 | 117 | 124 | 0.173 | 0.067 |
| Lexington | 40 | 30 | 116 | 126 | 137 | 0.218 | 0.070 |
| Leyden ² | 60 | 40 | 105 | 115 | 120 | 0.176 | 0.069 |
| Lincoln | 40 | 35 | 115 | 126 | 136 | 0.213 | 0.070 |
| Littleton | 50 | 35 | 112 | 123 | 133 | 0.214 | 0.071 |
| Longmeadow | 35 | 35 | 109 | 120 | 129 | 0.174 | 0.065 |
| Lowell | 50 | 30 | 112 | 123 | 134 | 0.235 | 0.074 |
| Ludlow | 35 | 35 | 109 | 120 | 129 | 0.173 | 0.065 |
| Lunenburg | 60 | 35 | 110 | 120 | 131 | 0.207 | 0.071 |
| Lynn | 40 | 30 | 117 | 128 | 139 | 0.233 | 0.071 |
| Lynnfield | 50 | 30 | 116 | 126 | 137 | 0.237 | 0.073 |
| Malden | 40 | 30 | 117 | 127 | 138 | 0.224 | 0.070 |
| Manchester | 50 | 30 | 117 | 128 | 139 | 0.249 | 0.074 |
| Mansfield | 35 | 30 | 121 | 131 | 142 | 0.186 | 0.064 |
| Marblehead | 40 | 30 | 118 | 128 | 139 | 0.239 | 0.072 |
| Marion | 30 | 30 | 129 | 139 | 150 | 0.170 | 0.058 |
| Marlborough | 50 | 35 | 114 | 125 | 135 | 0.194 | 0.068 |
| Marshfield | 35 | 30 | 124 | 134 | 145 | 0.196 | 0.064 |

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V_{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|-------------------------------|-------------------------------|--|-----------------------------------|------------------|-------------------------|------------------------|-------|
| | Ground Snow Load, P_g (psf) | Minimum Flat Roof Snow Load, P_f^1 (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S_s | S_1 |
| Mashpee | 30 | 25 | 131 | 140 | 152 | 0.156 | 0.055 |
| Mattapoisett | 30 | 30 | 129 | 139 | 150 | 0.169 | 0.058 |
| Maynard | 50 | 35 | 114 | 124 | 135 | 0.206 | 0.069 |
| Medfield | 40 | 35 | 118 | 129 | 139 | 0.191 | 0.066 |
| Medford | 40 | 30 | 117 | 127 | 138 | 0.221 | 0.070 |
| Medway | 40 | 35 | 118 | 129 | 139 | 0.185 | 0.065 |
| Melrose | 40 | 30 | 117 | 127 | 138 | 0.227 | 0.071 |
| Mendon | 40 | 35 | 118 | 128 | 138 | 0.179 | 0.064 |
| Merrimac | 50 | 30 | 112 | 123 | 133 | 0.265 | 0.078 |
| Methuen | 50 | 30 | 112 | 122 | 133 | 0.251 | 0.076 |
| Middleborough | 30 | 30 | 125 | 135 | 146 | 0.183 | 0.062 |
| Middlefield | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Middleton | 50 | 30 | 115 | 125 | 136 | 0.245 | 0.074 |
| Milford | 40 | 35 | 117 | 128 | 138 | 0.182 | 0.065 |
| Millbury | 50 | 35 | 115 | 125 | 136 | 0.178 | 0.065 |
| Millis | 40 | 35 | 118 | 129 | 139 | 0.188 | 0.065 |
| Millville | 40 | 35 | 118 | 129 | 139 | 0.177 | 0.063 |
| Milton | 40 | 30 | 119 | 130 | 141 | 0.205 | 0.067 |
| Monroe ² | 60 | 40 | 105 | 115 | 120 | 0.174 | 0.069 |
| Monson | 40 | 35 | 111 | 122 | 132 | 0.173 | 0.065 |
| Montague | 50 | 35 | 105 | 116 | 122 | 0.173 | 0.068 |
| Monterey | 50 | 40 | 105 | 116 | 122 | 0.170 | 0.065 |
| Montgomery | 40 | 40 | 105 | 117 | 123 | 0.171 | 0.066 |
| Mount Washington ² | 40 | 40 | 105 | 115 | 120 | 0.171 | 0.065 |
| Nahant | 40 | 30 | 118 | 128 | 139 | 0.229 | 0.071 |
| Nantucket | 25 | 25 | 139 | 140 | 158 | 0.113 | 0.047 |
| Natick | 40 | 35 | 117 | 127 | 138 | 0.197 | 0.067 |
| Needham | 40 | 35 | 118 | 128 | 139 | 0.201 | 0.067 |
| New Ashford ² | 50 | 40 | 105 | 115 | 120 | 0.173 | 0.068 |
| New Bedford | 30 | 30 | 129 | 139 | 150 | 0.170 | 0.058 |
| New Braintree | 50 | 35 | 111 | 121 | 131 | 0.176 | 0.066 |
| New Marlborough | 50 | 40 | 105 | 115 | 120 | 0.171 | 0.065 |
| New Salem | 50 | 35 | 106 | 117 | 125 | 0.177 | 0.068 |
| Newbury | 50 | 30 | 114 | 125 | 136 | 0.263 | 0.077 |
| Newburyport | 50 | 30 | 114 | 124 | 135 | 0.265 | 0.078 |
| Newton | 40 | 30 | 117 | 127 | 138 | 0.208 | 0.068 |
| Norfolk | 40 | 35 | 119 | 129 | 140 | 0.186 | 0.065 |
| North Adams ² | 60 | 40 | 105 | 115 | 120 | 0.175 | 0.069 |
| North Andover | 50 | 30 | 113 | 123 | 134 | 0.251 | 0.076 |
| North Attleborough | 35 | 30 | 121 | 131 | 142 | 0.180 | 0.063 |
| North Brookfield | 50 | 35 | 112 | 122 | 132 | 0.176 | 0.066 |
| North Reading | 50 | 30 | 115 | 125 | 136 | 0.240 | 0.073 |
| Northampton | 40 | 35 | 106 | 117 | 124 | 0.171 | 0.066 |
| Northborough | 50 | 35 | 114 | 124 | 135 | 0.188 | 0.067 |
| Northbridge | 40 | 35 | 116 | 127 | 137 | 0.179 | 0.065 |
| Northfield | 60 | 35 | 105 | 115 | 120 | 0.179 | 0.069 |
| Norton | 35 | 30 | 122 | 133 | 144 | 0.184 | 0.063 |
| Norwell | 35 | 30 | 123 | 133 | 144 | 0.203 | 0.065 |
| Norwood | 40 | 35 | 119 | 129 | 140 | 0.195 | 0.066 |
| Oak Bluffs | 25 | 25 | 133 | 140 | 154 | 0.144 | 0.053 |
| Oakham | 50 | 35 | 111 | 121 | 131 | 0.179 | 0.067 |
| Orange | 60 | 35 | 106 | 117 | 124 | 0.180 | 0.069 |
| Orleans | 25 | 25 | 132 | 140 | 152 | 0.144 | 0.053 |
| Otis | 50 | 40 | 105 | 115 | 120 | 0.170 | 0.066 |
| Oxford | 50 | 35 | 115 | 125 | 136 | 0.174 | 0.064 |
| Palmer | 40 | 35 | 111 | 121 | 131 | 0.173 | 0.065 |
| Paxton | 50 | 35 | 112 | 122 | 133 | 0.180 | 0.066 |

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V_{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|--------------------------|-------------------------------|--|-----------------------------------|------------------|-------------------------|------------------------|-------|
| | Ground Snow Load, P_g (psf) | Minimum Flat Roof Snow Load, P_f^1 (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S_s | S_1 |
| Peabody | 50 | 30 | 117 | 127 | 138 | 0.240 | 0.073 |
| Pelham | 40 | 35 | 107 | 118 | 126 | 0.173 | 0.067 |
| Pembroke | 30 | 30 | 124 | 134 | 145 | 0.195 | 0.064 |
| Pepperell | 60 | 35 | 110 | 120 | 131 | 0.223 | 0.073 |
| Peru ² | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Petersham | 50 | 35 | 108 | 118 | 127 | 0.180 | 0.068 |
| Phillipston | 60 | 35 | 108 | 118 | 127 | 0.185 | 0.069 |
| Pittsfield ² | 50 | 40 | 105 | 115 | 120 | 0.170 | 0.067 |
| Plainfield ² | 60 | 40 | 105 | 115 | 120 | 0.170 | 0.067 |
| Plainville | 40 | 35 | 121 | 131 | 142 | 0.182 | 0.063 |
| Plymouth | 30 | 30 | 126 | 136 | 147 | 0.185 | 0.061 |
| Plympton | 30 | 30 | 125 | 135 | 146 | 0.187 | 0.062 |
| Princeton | 50 | 35 | 111 | 121 | 131 | 0.188 | 0.068 |
| Provincetown | 25 | 25 | 128 | 138 | 148 | 0.177 | 0.060 |
| Quincy | 40 | 30 | 120 | 130 | 141 | 0.208 | 0.067 |
| Randolph | 35 | 30 | 121 | 131 | 142 | 0.198 | 0.066 |
| Raynham | 35 | 30 | 123 | 134 | 145 | 0.185 | 0.063 |
| Reading | 50 | 30 | 116 | 126 | 137 | 0.234 | 0.072 |
| Rehoboth | 35 | 30 | 124 | 134 | 145 | 0.179 | 0.062 |
| Revere | 40 | 30 | 118 | 128 | 139 | 0.224 | 0.070 |
| Richmond ² | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Rochester | 30 | 30 | 128 | 138 | 149 | 0.176 | 0.059 |
| Rockland | 35 | 30 | 122 | 132 | 143 | 0.198 | 0.065 |
| Rockport | 50 | 30 | 118 | 128 | 139 | 0.255 | 0.074 |
| Rowe ² | 60 | 40 | 105 | 115 | 120 | 0.173 | 0.069 |
| Rowley | 50 | 30 | 115 | 125 | 136 | 0.259 | 0.076 |
| Royalston | 60 | 35 | 106 | 116 | 123 | 0.188 | 0.070 |
| Russell | 40 | 40 | 105 | 116 | 123 | 0.171 | 0.065 |
| Rutland | 50 | 35 | 111 | 121 | 132 | 0.182 | 0.067 |
| Salem | 50 | 30 | 117 | 127 | 138 | 0.240 | 0.073 |
| Salisbury | 50 | 30 | 113 | 124 | 134 | 0.266 | 0.078 |
| Sandisfield | 50 | 40 | 105 | 115 | 120 | 0.171 | 0.065 |
| Sandwich | 30 | 25 | 130 | 139 | 150 | 0.165 | 0.057 |
| Saugus | 40 | 30 | 117 | 127 | 138 | 0.230 | 0.071 |
| Savoy ² | 60 | 40 | 105 | 115 | 120 | 0.170 | 0.068 |
| Scituate | 35 | 30 | 123 | 133 | 144 | 0.207 | 0.066 |
| Seekonk | 35 | 30 | 123 | 134 | 145 | 0.177 | 0.061 |
| Sharon | 35 | 35 | 120 | 130 | 141 | 0.191 | 0.065 |
| Sheffield ² | 40 | 40 | 105 | 115 | 120 | 0.171 | 0.065 |
| Shelburne | 50 | 40 | 105 | 115 | 120 | 0.172 | 0.068 |
| Sherborn | 40 | 35 | 117 | 127 | 138 | 0.192 | 0.066 |
| Shirley | 60 | 35 | 111 | 121 | 132 | 0.207 | 0.071 |
| Shrewsbury | 50 | 35 | 114 | 124 | 135 | 0.184 | 0.066 |
| Shutesbury | 40 | 35 | 106 | 117 | 125 | 0.174 | 0.067 |
| Somerset | 30 | 30 | 126 | 136 | 147 | 0.178 | 0.061 |
| Somerville | 40 | 30 | 117 | 127 | 139 | 0.218 | 0.070 |
| South Hadley | 35 | 35 | 107 | 118 | 126 | 0.171 | 0.066 |
| Southampton | 40 | 35 | 106 | 117 | 124 | 0.171 | 0.066 |
| Southborough | 40 | 35 | 115 | 125 | 136 | 0.191 | 0.067 |
| Southbridge | 40 | 35 | 114 | 125 | 135 | 0.173 | 0.064 |
| Southwick | 40 | 35 | 107 | 118 | 126 | 0.174 | 0.065 |
| Spencer | 50 | 35 | 113 | 123 | 133 | 0.176 | 0.066 |
| Springfield | 35 | 35 | 109 | 120 | 128 | 0.173 | 0.065 |
| Sterling | 50 | 35 | 112 | 122 | 132 | 0.192 | 0.068 |
| Stockbridge ² | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Stoneham | 40 | 30 | 116 | 126 | 137 | 0.229 | 0.071 |
| Stoughton | 35 | 35 | 121 | 131 | 142 | 0.194 | 0.065 |

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V_{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|-----------------------------|-------------------------------|--|-----------------------------------|------------------|-------------------------|------------------------|-------|
| | Ground Snow Load, P_g (psf) | Minimum Flat Roof Snow Load, P_f^1 (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S_s | S_1 |
| Stow | 50 | 35 | 114 | 124 | 135 | 0.204 | 0.069 |
| Sturbridge | 40 | 35 | 114 | 124 | 134 | 0.173 | 0.064 |
| Sudbury | 40 | 35 | 115 | 125 | 136 | 0.203 | 0.069 |
| Sunderland | 40 | 35 | 105 | 116 | 122 | 0.172 | 0.067 |
| Sutton | 50 | 35 | 115 | 126 | 136 | 0.177 | 0.065 |
| Swampscott | 40 | 30 | 118 | 128 | 139 | 0.234 | 0.072 |
| Swansea | 30 | 30 | 126 | 136 | 147 | 0.177 | 0.061 |
| Taunton | 35 | 30 | 124 | 134 | 145 | 0.183 | 0.062 |
| Templeton | 60 | 35 | 108 | 118 | 127 | 0.187 | 0.069 |
| Tewksbury | 50 | 30 | 113 | 124 | 135 | 0.237 | 0.074 |
| Tisbury | 25 | 25 | 133 | 140 | 153 | 0.146 | 0.053 |
| Tolland | 50 | 40 | 105 | 115 | 122 | 0.172 | 0.065 |
| Topsfield | 50 | 30 | 115 | 125 | 136 | 0.251 | 0.075 |
| Townsend | 60 | 35 | 109 | 119 | 130 | 0.216 | 0.073 |
| Truro | 25 | 25 | 129 | 139 | 149 | 0.164 | 0.057 |
| Tyngsborough | 50 | 30 | 111 | 121 | 132 | 0.234 | 0.074 |
| Tyringham ² | 50 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| Upton | 40 | 35 | 116 | 127 | 137 | 0.181 | 0.065 |
| Uxbridge | 40 | 35 | 117 | 128 | 138 | 0.177 | 0.064 |
| Wakefield | 50 | 30 | 116 | 126 | 137 | 0.232 | 0.072 |
| Wales | 40 | 35 | 113 | 123 | 133 | 0.173 | 0.064 |
| Walpole | 40 | 35 | 119 | 130 | 141 | 0.190 | 0.065 |
| Waltham | 40 | 30 | 116 | 127 | 138 | 0.211 | 0.069 |
| Ware | 40 | 35 | 110 | 120 | 131 | 0.174 | 0.066 |
| Wareham | 30 | 30 | 129 | 138 | 149 | 0.173 | 0.059 |
| Warren | 40 | 35 | 111 | 121 | 132 | 0.173 | 0.065 |
| Warwick | 60 | 35 | 105 | 115 | 121 | 0.183 | 0.070 |
| Washington ² | 60 | 40 | 105 | 115 | 120 | 0.168 | 0.066 |
| Watertown | 40 | 30 | 117 | 127 | 138 | 0.213 | 0.069 |
| Wayland | 40 | 35 | 116 | 126 | 137 | 0.203 | 0.068 |
| Webster | 50 | 35 | 116 | 126 | 136 | 0.173 | 0.064 |
| Wellesley | 40 | 35 | 117 | 127 | 138 | 0.200 | 0.067 |
| Wellfleet | 25 | 25 | 130 | 140 | 150 | 0.157 | 0.056 |
| Wendell | 50 | 35 | 105 | 117 | 123 | 0.177 | 0.068 |
| Wenham | 50 | 30 | 116 | 126 | 137 | 0.249 | 0.074 |
| W. Boylston | 50 | 35 | 112 | 123 | 133 | 0.186 | 0.067 |
| W. Bridgewater | 35 | 30 | 123 | 133 | 144 | 0.189 | 0.063 |
| W. Brookfield | 40 | 35 | 112 | 122 | 132 | 0.174 | 0.065 |
| W. Newbury | 50 | 30 | 113 | 123 | 134 | 0.263 | 0.078 |
| W. Springfield | 35 | 35 | 108 | 119 | 128 | 0.173 | 0.065 |
| W. Stockbridge ² | 40 | 40 | 105 | 115 | 120 | 0.169 | 0.066 |
| W. Tisbury | 25 | 25 | 134 | 140 | 154 | 0.141 | 0.052 |
| Westborough | 50 | 35 | 115 | 125 | 136 | 0.186 | 0.066 |
| Westfield | 40 | 35 | 107 | 118 | 125 | 0.172 | 0.065 |
| Westford | 50 | 35 | 112 | 123 | 133 | 0.223 | 0.072 |
| Westhampton | 50 | 40 | 105 | 116 | 122 | 0.170 | 0.066 |
| Westminster | 60 | 35 | 109 | 120 | 130 | 0.194 | 0.069 |
| Weston | 40 | 35 | 116 | 126 | 137 | 0.207 | 0.069 |
| Westport | 30 | 30 | 128 | 139 | 149 | 0.172 | 0.059 |
| Westwood | 40 | 35 | 119 | 129 | 140 | 0.196 | 0.066 |
| Weymouth | 35 | 30 | 121 | 131 | 142 | 0.206 | 0.067 |
| Whately | 50 | 35 | 105 | 116 | 122 | 0.171 | 0.067 |
| Whitman | 35 | 30 | 123 | 133 | 144 | 0.194 | 0.064 |
| Wilbraham | 35 | 35 | 110 | 121 | 130 | 0.173 | 0.065 |
| Williamsburg | 50 | 40 | 105 | 116 | 121 | 0.170 | 0.067 |
| Williamstown ² | 50 | 40 | 105 | 115 | 120 | 0.176 | 0.070 |
| Wilmington | 50 | 30 | 115 | 125 | 136 | 0.233 | 0.073 |

| City/Town | SNOW LOADS | | BASIC WIND SPEED, V_{ult} (mph) | | | SEISMIC PARAMETERS (g) | |
|----------------------|-------------------------------|--|-----------------------------------|------------------|-------------------------|------------------------|-------|
| | Ground Snow Load, P_g (psf) | Minimum Flat Roof Snow Load, P_f^1 (psf) | Risk Category I | Risk Category II | Risk Category III or IV | S_s | S_1 |
| Winchendon | 60 | 35 | 107 | 117 | 125 | 0.197 | 0.071 |
| Winchester | 40 | 30 | 116 | 126 | 137 | 0.224 | 0.071 |
| Windsor ² | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Winthrop | 40 | 30 | 118 | 129 | 140 | 0.222 | 0.070 |
| Woburn | 50 | 30 | 116 | 126 | 137 | 0.226 | 0.071 |
| Worcester | 50 | 35 | 114 | 124 | 134 | 0.180 | 0.066 |
| Worthington | 60 | 40 | 105 | 115 | 120 | 0.169 | 0.067 |
| Wrentham | 40 | 35 | 120 | 130 | 141 | 0.184 | 0.064 |
| Yarmouth | 30 | 25 | 132 | 140 | 152 | 0.149 | 0.054 |

1. The design flat roof snow load shall be the larger of the calculated flat roof snow load using P_g or the value of P_f^1 listed in this table.

2. Special Wind Region. Local conditions may cause higher wind speeds than the tabulated values. See ASCE/SEI 7.

FIGURE 1608.5.1

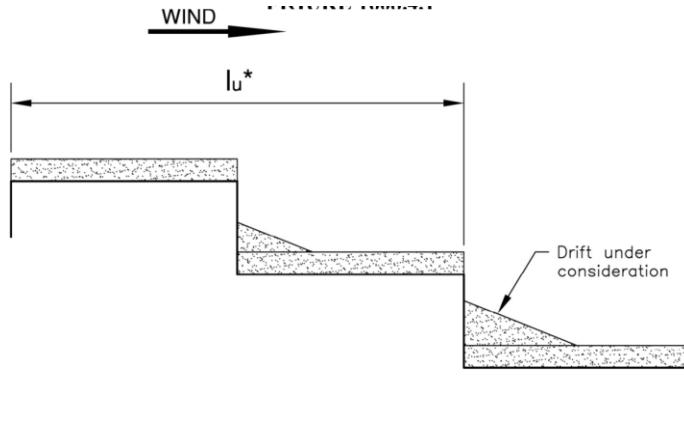


FIGURE 1608.5.2

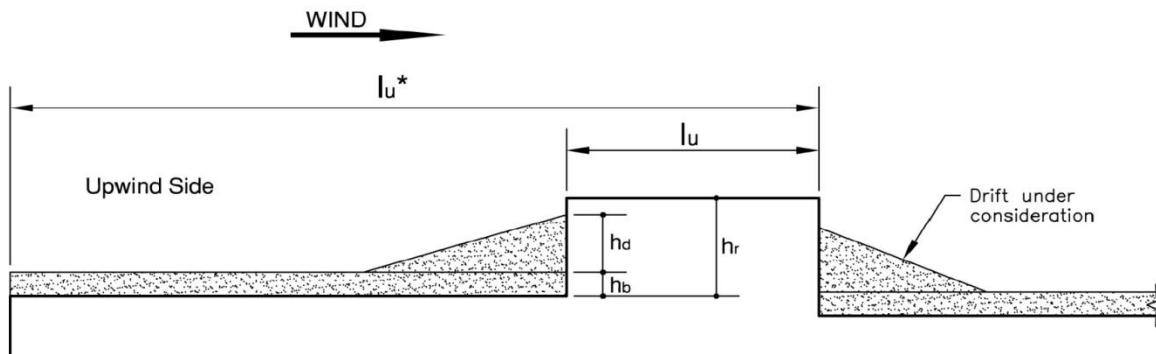


TABLE 1806.2a PRESUMPTIVE ALLOWABLE VERTICAL BEARING PRESSURES

| Material Class | Description | Notes | Consistency in Place | Net Bearing Pressure (tons/ft ²) ^{1,2,3} |
|----------------|---|-------|--|---|
| 1a | Massive bedrock: Granite, diorite, gabbro, basalt, gneiss | 4 | Hard, sound rock, minor jointing | 100 |
| 1b | Quartzite, well cemented conglomerate | 4 | Hard, sound rock moderate jointing | 60 |
| 2 | Foliated bedrock: slate, schist | 4 | Medium hard rock, minor jointing | 40 |
| 3 | Sedimentary bedrock: cementation shale, siltstone, sandstone, limestone, dolomite, conglomerate | 4 | Soft rock, moderate jointing | 20 |
| 4 | Weakly cemented sedimentary bedrock: compaction shale or other similar rock in sound condition | 4 | Very soft rock | 10 |
| 5 | Weathered bedrock: any of the above except shale. | 5 | Very soft rock, weathered and/or major jointing and fracturing | 8 |
| 6 | Slightly cemented sand and/or gravel, glacial till (basal or lodgement), hardpan | 6 | Very dense | 10 |
| 7 | Gravel, widely graded sand and gravel; and granular ablation till | 6 | Very dense Dense Medium dense Loose Very loose | 8 6 4 2 Note 9 |
| 8 | Sands and non-plastic silty sands with little or no gravel (except for Class 9 materials) | 6, 7 | Dense Medium dense Loose Very loose | 4 3 1 Note 9 |
| 9 | Fine sand, silty fine sand, and non-plastic inorganic silt | 6, 7 | Dense Medium dense Loose Very loose | 3 2 1 Note 9 |
| 10 | Inorganic sandy or silty clay, clayey sand, clayey silt, clay, or varved clay; low to high plasticity | 8 | Hard Stiff Medium Soft | 4 2 1 Note 9 |
| 11 | Organic soils: peat, organic silt, organic clay | 8,9 | | Note 9 |

Notes:

1. Net bearing pressure shall consist of the bearing pressure applied at the bottom of the foundation, including the weight of the foundation and any soil immediately overlying the foundation, minus the pressure calculated for a height of soil extending from the bottom of the foundation to the lowest ground surface level immediately adjacent to the foundation.
2. Where the load-bearing layer directly below the foundation is underlain by a weaker layer, the bearing pressure on the weaker layer shall be checked by assuming that the load is spread uniformly at an angle of 30 degrees with the vertical, or by using another suitable method to determine the bearing pressure on the weaker layer.
3. The bearing strata shall be adequately protected against disturbance. If the bearing materials are disturbed from any cause, for example, by flow of water, freezing or construction activities, the extent of the disturbance shall be evaluated by a registered design professional to determine appropriate remedial measures or reduced allowable bearing pressures.
4. The allowable bearing pressures may be increased by an amount equal to 10% for each foot of depth below the surface of sound rock; however, the increase shall not exceed two times the value given in the table.
5. Weathered shale and/or weathered compaction shale shall be included in Material Class 10. Other highly weathered rocks and/or residual soils shall be treated as soil under the appropriate description in Material Classes 6 to 10. Where the transition between residual soil and bedrock is gradual, a registered design professional shall make a judgment as to the appropriate bearing pressure.
6. Allowable bearing pressures may be increased by an amount equal to 5% for each foot of depth of the bearing area below the minimum required in section 1806.0; however, the bearing pressure shall not exceed two times the value given in the table. For foundation bearing areas having a least lateral dimension smaller than three feet, the allowable bearing pressure shall be ~~1/3~~ 1/3 of the tabulated value times the least dimension in feet.
7. Evaluate susceptibility to liquefaction in accordance with section 1806.4.
8. Evaluate long-term settlement due to consolidation for these materials.
9. A registered design professional shall be engaged to provide recommendations for these special cases.

FIGURE 1806.4.a

Figure 1804.6a
Liquefaction Susceptibility - Donut Hammer Blow Counts

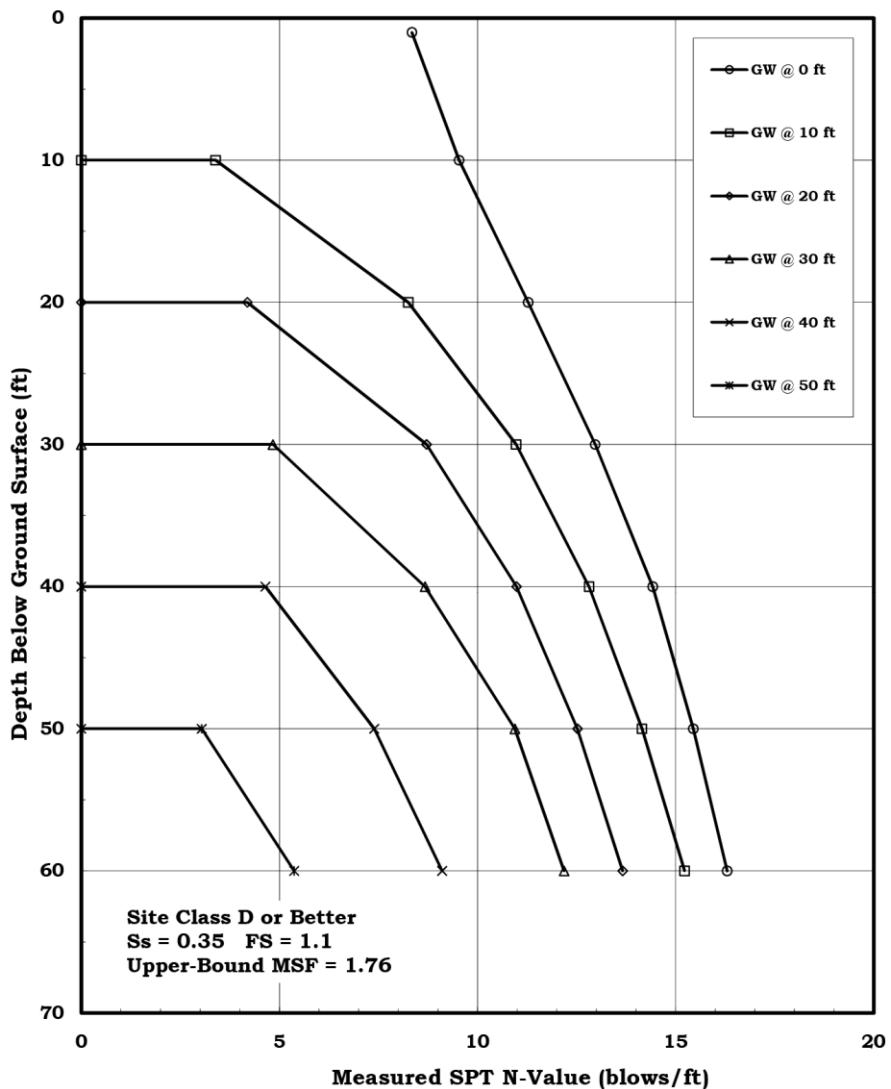


FIGURE 1806.4.b

Figure 1804.6b
Liquefaction Susceptibility - Safety Hammer Blow Counts

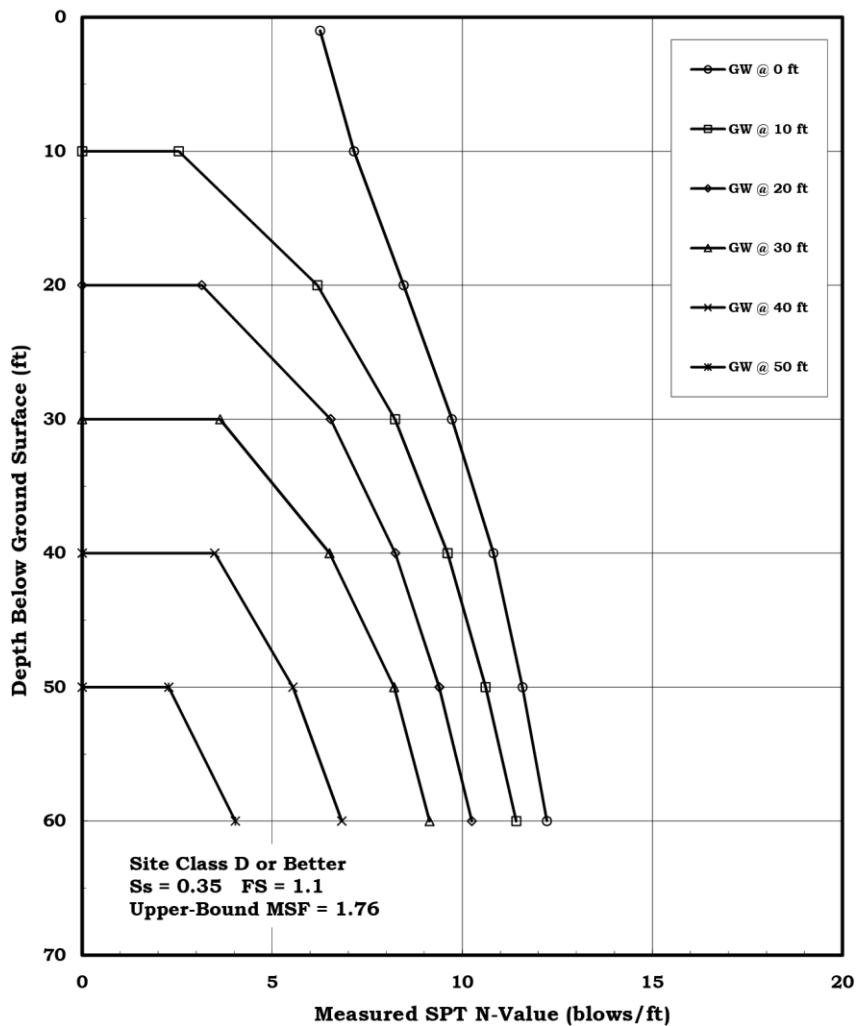


FIGURE 1806.4.c

Figure 1804.6c
Liquefaction Susceptibility - Automatic Hammer Blow Counts

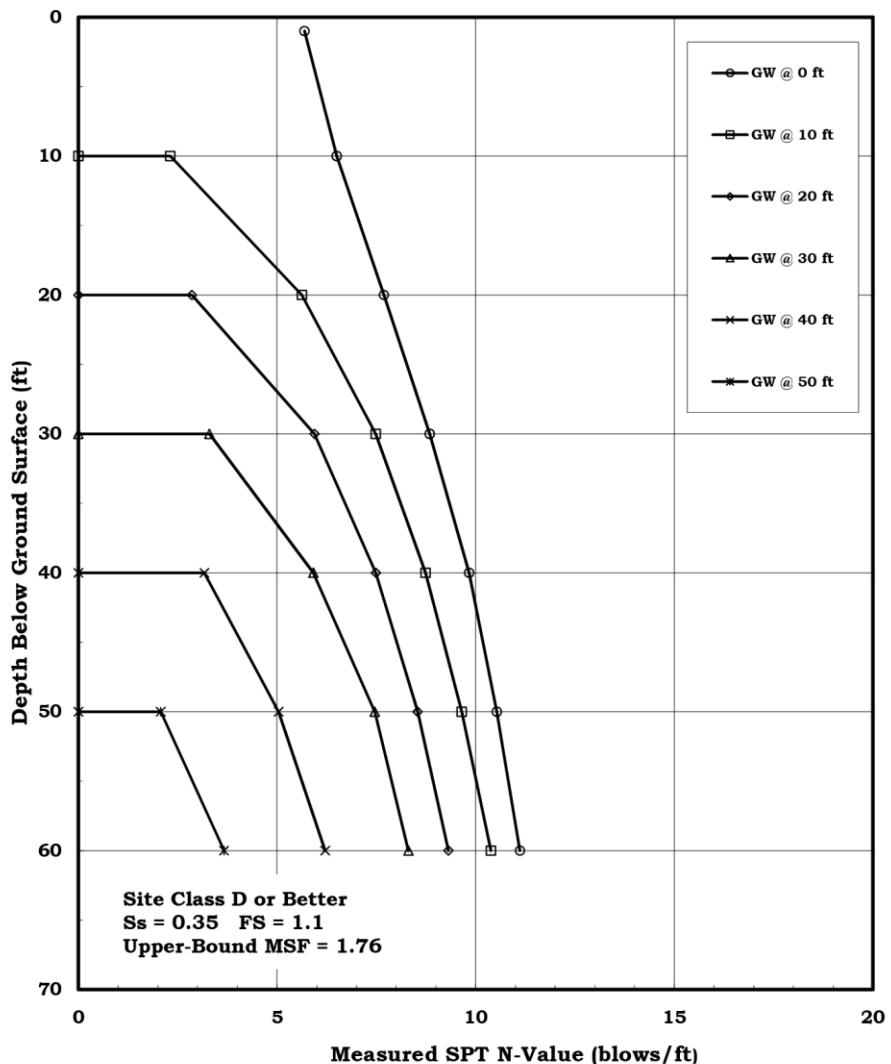


TABLE 1810.3.3.1

| R (tons) | Energy, E (foot-pounds) | C | Standard Batch Volume (cubic feet) |
|-------------|----------------------------|----|---------------------------------------|
| over 100 | 140,000 | 18 | 5 |
| 51 to 100 | 100,000 | 18 | 5 |
| 25 to 50 | 60,000 | 30 | 2 |

CHAPTER 23

TABLE 2303.1.14 NATIVE LUMBER - ALLOWABLE STRESSES

| Nominal Size | Actual Lumber Size (closest size which does not exceed the size shown) width (in.) x height (in.) | Multiplier factor based on lumber width | Value to be added to multiplier factor for lumber with larger widths than those shown in column 2 for width increases: | |
|--------------|--|---|---|----------------------------------|
| | | | > $\frac{1}{4}$ and $\leq \frac{1}{2}$ in. | > $\frac{1}{2}$ and ≤ 1 in. |
| 3 x 8 | 2 $\frac{1}{2}$ x 7 $\frac{1}{2}$ | 1.0 x Fs | 0.10 | 0.20 |
| | 2 $\frac{1}{2}$ x 7 $\frac{3}{4}$ | 1.07 | | |
| | 2 $\frac{1}{2}$ x 8 | 1.14 | | |
| 3 x 10 | 2 $\frac{1}{2}$ x 9 $\frac{1}{2}$ | 1.0 | 0.10 | 0.20 |
| | 2 $\frac{1}{2}$ x 9 $\frac{3}{4}$ | 1.05 | | |
| | 2 $\frac{1}{2}$ x 10 | 1.11 | | |
| 3 x 12 | 2 $\frac{1}{2}$ x 11 $\frac{1}{2}$ | 1.0 | 0.10 | 0.20 |
| | 2 $\frac{1}{2}$ x 11 $\frac{3}{4}$ | 1.04 | | |
| | 2 $\frac{1}{2}$ x 12 | 1.09 | | |
| 3 x 14 | 2 $\frac{1}{2}$ x 13 $\frac{1}{2}$ | 1.0 | 0.10 | 0.20 |
| | 2 $\frac{1}{2}$ x 13 $\frac{3}{4}$ | 1.04 | | |
| | 2 $\frac{1}{2}$ x 14 | 1.07 | | |
| 4 x 10 | 3 $\frac{1}{2}$ x 9 $\frac{1}{2}$ | 1.0 | 0.07 | 0.14 |
| | 3 $\frac{1}{2}$ x 9 $\frac{3}{4}$ | 1.05 | | |
| | 3 $\frac{1}{2}$ x 10 | 1.11 | | |
| 4 x 12 | 3 $\frac{1}{2}$ x 11 $\frac{1}{2}$ | 1.0 | 0.07 | 0.14 |
| | 3 $\frac{1}{2}$ x 11 $\frac{3}{4}$ | 1.04 | | |
| | 3 $\frac{1}{2}$ x 12 | 1.09 | | |
| 4 x 14 | 3 $\frac{1}{2}$ x 13 $\frac{1}{2}$ | 1.0 | 0.07 | 0.14 |
| | 3 $\frac{1}{2}$ x 13 $\frac{3}{4}$ | 1.04 | | |
| | 3 $\frac{1}{2}$ x 14 | 1.08 | | |

CHAPTER 31

TABLE 3112.6 LIMITATIONS OF USE

| Use Limitations for Temporary Overnight Shelters | | | | | | | | | |
|--|----------------------------|----|-----|-----|-------|-------|----|-----|-----|
| Location in Building | Building Construction Type | | | | | | | | |
| | IA | IB | IIA | IIB | III A | III B | IV | V A | V B |
| Basement (without direct access to outside) | PS | PS | PS | PS | NP | NP | PS | NP | NP |
| Basement (with direct access to outside) | P | P | P | P | P | P | P | P | PS |
| 1 st Floor | P | P | P | P | P | P | P | P | P |
| 2 nd Floor | P | P | P | P | P | P | P | P | P |
| 3 rd Floor | P | P | P | P | PS | PS | PS | PS | PS |
| 4 th Floor and above | PS | PS | PS | PS | PS | PS | PS | PS | NP |

P= Permitted, see Section 3112.6. PS= Permitted with sprinklers, see Section 3112.6. NP = Not Permitted.

CHAPTER 34

TABLE 301.1.4.1 BASIC SEISMIC-FORCE-RESISTING SYSTEM

NOTE: References are currently being updated by SAC. No technical changes are anticipated

| BASIC SEISMIC-FORCE-RESISTING SYSTEM | R | Ω_0 | C_d |
|--|------|------------|-------|
| Bearing Wall Systems | | | |
| Steel concentrically braced frame (CBF) with diagonal ³ or X-bracing | | | |
| CBF per 6 th Edition SBC ² except for section 9.5 of 1992 AISC Seismic Provisions | 3.5 | 2 | 3.5 |
| Otherwise ⁴ | 3 | 3 | 3 |
| Steel CBF with V, Inverted V or K bracing | | | |
| V or Inverted V bracing per 6 th Edition SBC ² | 3 | 3 | 3 |
| V or Inverted V bracing, otherwise ⁴ | 3 | 3 | 3 |
| K bracing | 1.25 | 1.25 | 1.25 |
| Reinforced concrete shear walls with boundary elements and without coupling beams, in accordance with 780 CMR 1113.5.1.4a, 9 th Edition | 5 | 2.5 | 5 |
| Reinforced concrete shear walls with reinforcing steel less than required by, or with spacing greater than permitted by Section 11.9.9 of ACI 318-08 | 1.5 | 1.5 | 1.5 |
| Unreinforced concrete shear walls | 1.25 | 1.25 | 1.25 |
| Reinforced masonry shear walls | | | |
| Class A ⁵ | 4.5 | 2.5 | 3.5 |
| Class B ⁶ | 2.25 | 2.25 | 2.25 |
| Class C ⁷ | 1.25 | 1.25 | 1.25 |
| Unreinforced masonry shear walls | 1.25 | 1.25 | 1.25 |
| Light-framed walls sheathed with wood structural panels or diagonal sheathing | 4 | 2.5 | 3 |
| Other light-framed walls ¹⁰ | 2 | 2 | 2 |
| Building Frame Systems | | | |
| Steel concentrically braced frame (CBF) with diagonal ³ or X-bracing | | | |
| CBF per 6 th Edition SBC ² except for section 9.5 of 1992 AISC Seismic Provisions | 4 | 2 | 3.5 |
| Otherwise ⁴ | 3 | 3 | 3 |
| Steel CBF with V, Inverted V or K bracing | | | |
| V or Inverted V bracing per 6 th Edition SBC ² | 3 | 3 | 3 |
| V or Inverted V bracing, otherwise ⁴ | 3 | 3 | 3 |
| K bracing | 1.5 | 1.5 | 1.5 |
| Reinforced concrete shear walls with boundary elements and without coupling beams, in accordance with 780 CMR 1113.5.1.4a, 5 th Edition | 6 | 2.5 | 5 |
| Reinforced concrete shear walls with reinforcing steel less than required by, or with spacing greater than permitted by section 11.9.9 of ACI 318-08 | 1.5 | 1.5 | 1.5 |
| Unreinforced concrete shear walls | 1.5 | 1.5 | 1.5 |
| Reinforced masonry shear walls | | | |
| Class A ⁵ | 5 | 2.5 | 4 |
| Class B ⁶ | 2.25 | 2.25 | 2.25 |
| Class C ⁷ | 1.5 | 1.5 | 1.5 |
| Unreinforced masonry shear walls | 1.5 | 1.5 | 1.5 |
| Light-framed walls sheathed with wood structural panels or diagonal sheathing | 4 | 2.5 | 3 |
| Other light-framed walls ¹⁰ | 2.5 | 2.5 | 2.5 |
| Moment Resisting Frame Systems | | | |
| Steel moment frames | | | |

| | | | |
|---|-----|-----|-----|
| Special Moment Frame per 6 th Edition SBC ² | 8 | 3 | 5.5 |
| Ordinary Moment Frame per 6 th Edition SBC ² | 3.5 | 3.5 | 3.5 |
| Moment frame, otherwise ⁴ | 3 | 3 | 3 |
| Reinforced concrete moment frames | | | |
| Class A ⁸ | 5 | 3 | 4.5 |
| Class B ⁹ | 2.5 | 2.5 | 2.5 |
| Dual Systems (See ASCE 7, Section 12.2.5.1) | | | |
| Steel concentrically braced frame (CBF) with steel moment frames (MF) | | | |
| CBF and Special Moment Frame, per 6 th Edition SBC ² | 5 | 2.5 | 4.5 |
| CBF and Moment Frame per 1 st through 5 th Editions SBC ² , except V, Inverted V or K Braced Frames | 3.5 | 2.5 | 3.5 |
| CBF and Moment Frame per 1 st through 5 th Editions SBC ² , with V, Inverted V or K Braced Frames | 3 | 2.5 | 3 |
| Otherwise | 1.5 | 1.5 | 1.5 |
| Reinforced concrete shear walls with boundary elements and without coupling beams, in accordance with 780 CMR 1113.5.1.4a, 5 th Edition, with reinforced concrete moment frames, Class A ⁸ | 6 | 2.5 | 5 |
| Ordinary reinforced concrete shear walls, as defined in 8 th Edition SBC, with reinforced concrete moment frames, Class A ⁸ | 5.5 | 2.5 | 4.5 |
| Notes: | | | |
| 1. Systems of previous editions of the State Building Code that meet the ductility requirements of the 8 th Edition of the Code are not included in this table. | | | |
| 2. SBC refers to 780 CMR Commonwealth of Massachusetts State Building Code. | | | |
| 3. A diagonal brace is one that frames from a beam-to-column connection diagonally to another beam-to-column connection or to a column at its base plate. | | | |
| 4. The seismic resistance of the frame shall be based on its seismic connections being subject to two times the computed forces and moments resulting from seismic load. | | | |
| 5. Class A reinforced masonry shear walls have a minimum total area of reinforcement in the vertical and horizontal direction at least 0.0020 times the gross cross-sectional area of the wall, with a minimum area in each direction at least 0.0007 times the gross cross-sectional area of the wall. Maximum spacing of reinforcing steel bars in grouted cells or bond courses is 6'-0" in one direction and 4'-0" in the other direction, but not more than $\frac{1}{8}$ of the length or height of the wall, whichever is less, in each direction. Class A walls satisfy other requirements for reinforced masonry of the base code. | | | |
| 6. Class B reinforced masonry shear walls satisfy all requirements for Class A walls, except that spacing limits for reinforcing steel bars are exceeded. | | | |
| 7. Class C reinforced masonry shear walls satisfy all requirements for reinforced masonry of the base code. | | | |
| 8. Class A reinforced concrete moment frames satisfy requirements of Sections 1113.5.1, 1113.5.1.1, 1113.5.1.2 and 1113.5.1.3 of 780 CMR 5 th Edition and Sections 11.12.1.1 and 11.12.1.2 of ACI 318-83 for reinforcing of beam to column joints. | | | |
| 9. Class B reinforced concrete moment frames do not satisfy requirements for Class A reinforced concrete moment frames. | | | |
| 10. Wood siding over horizontal or diagonal boards, plaster on wood or metal lath, and stucco on metal lath may be used to resist in-plane shear, where the walls are anchored to floors and to the floor or roof construction above such that they can transfer the shear between floors and to the foundation. Gypsum sheathing, lath, wall board, drywall, fiberboard and particle board are not permitted to resist in-plane shear unless originally designed in accordance with 780 CMR for that purpose. | | | |